CLAIMS:

1. A method of motion compensation in a projection data set of an object of interest, the method comprising the steps of: selecting a plurality of gating windows, the plurality of gating windows comprising a first gating window comprising first projection data and a second gating window comprising second projection data; estimating a motion of the object of interest on the basis of the projection data of the first and the second gating windows; performing a motion compensated reconstruction on the basis of the motion estimation; wherein the first and second gating windows at least partially overlap on a time axis.

2. The method according to claim 1, wherein the estimation of motion comprises the step of generating a motion map for the object of interest on the basis of the projection data of the first and second gating windows; and wherein the motion compensated reconstruction is performed on the basis of the motion map.

3. The method according to claim 1, wherein the selection of the first gating window and the second gating window comprises the steps of: selecting a first phase point; determining the first gating window comprising first projection data, wherein the first gating window corresponds to the first phase point; selecting a second phase point on the basis of the first phase point; determining a second gating window comprising second projection data, wherein the second gating window corresponds to the second phase point.

4. The method according to claim 2, wherein the object of interest comprises a plurality of points of interest; wherein the generation of the motion map comprises the steps of: reconstructing a first image on the basis of the first projection data; reconstructing a second image on the basis of the second projection data; and

determining motion of an average position for each point of interest of the plurality of points of interest on the basis of the projection data of the first and second gating windows, resulting in the motion map.

5. The method according to claim 4, wherein the motion compensated reconstruction on the basis of the motion map comprises the steps of: forward projecting the first image by using the motion map, resulting in forward projected first image data; determining a difference between the forward projected first image dataand the projection data ; back-projecting the difference by using the motion map; and updating the first image on the basis of the back-projected difference.

6. The method according to claim 1, wherein the motion compensated reconstruction is performed iteratively until an end criterion has been fulfilled.

7. The method according to claim 3, wherein the second phase point is negatively shifted with respect to the first phase point.

8. The method according to claim 1, wherein the projection data set is acquired by means of a source of electromagnetic radiation generating a beam and by means of a radiation detector detecting the beam, wherein the source of electromagnetic radiation is a polychromatic x-ray source; wherein the source moves along a helical path around the object of interest; and wherein the beam has one of a cone beam and a fan beam geometry.

9. A data processing device, comprising: a memory for storing a data set; a data processor for performing motion compensation in a projection data set of an object of interest, wherein the data processor is adapted for performing the following operation: loading the projection data set; selecting a first gating window comprising first projection data and a second gating window comprising second projection data; estimating a motion of the object of interest on the basis of the projection data of the first and second gating windows; performing a motion compensated reconstruction on

the basis of the motion estimation; wherein the first and second gating windows at least partially overlap on a time axis.

10. The data processing device according to claim 9, wherein the estimation of motion comprises the step of generating a motion map for the object of interest on the basis of the projection data of the first and second gating windows; and wherein the motion compensated reconstruction is performed on the basis of the motion map.

11. A CT scanner system, comprising: a memory for storing a data set; a data processor for performing motion compensation in a projection data set of an object of interest, wherein the data processor is adapted for performing the following operation: loading the projection data set acquired by means of a rotating source of electromagnetic radiation generating a beam and by means of a radiation detector detecting the beam; selecting a first gating window comprising first projection data and a second gating window comprising second projection data; estimating a motion of the object of interest on the basis of the projection data of the first and second gating windows; performing a motion compensated reconstruction on the basis of the motion estimation; wherein the first and second gating windows at least partially overlap on a time axis.

12. A computer program for performing motion compensation in a projection data set of an object of interest, wherein the computer program causes a processor to perform the following operation when the computer program is executed on the processor: loading the projection data set; selecting a plurality of gating windows, the plurality of gating windows comprising a first gating window comprising first projection data and a second gating window comprising second projection data; estimating a motion of the object of interest on the basis of the projection data of the first and the second gating windows; performing a motion compensated reconstruction on the basis of the motion estimation; wherein the first and second gating windows at least partially overlap on a time axis.